

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



INTERNATIONAL PATENT COOPERATION TREATY (PCT)

(43) International Publication Date
4 August 2005 (04.08.2005)

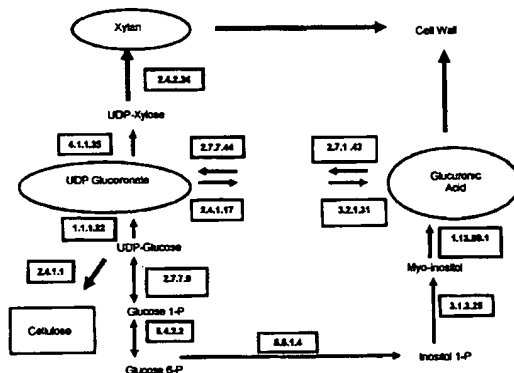
PCT

(10) International Publication Number
WO 2005/071086 A1

- (51) International Patent Classification⁷: C12N 15/52, 9/00, 15/82, 5/14
- (21) International Application Number: PCT/BR2005/000008
- (22) International Filing Date: 21 January 2005 (21.01.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: P10400246-6 22 January 2004 (22.01.2004) BR
- (71) Applicants (for all designated States except US): SUZANO BAHIA SUL PAPEL E CELULOSE S.A. [BR/BR]; Av. Tancredo Neves nº 274, Centro Empresarial "Iguatemi II", Bloco B sala 121, Pituba, 41820-907 Salvador - BA (BR). FUNDAÇÃO DE ESTUDOS AGRÁRIOS "LUIZ DE QUEIROZ" - FEALQ [BR/BR]; Av. Centenário, nº 1080, 13416-000 Piracicaba - SP (BR). FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DE SÃO PAULO [BR/BR]; Rua Pio XI, 1500, Alto da Lapa, 05468-901 São Paulo - SP (BR).
- (72) Inventors; and
(73) Inventors/Applicants (for US only): LABATE, Carlos Alberto [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR). LABATE, Mônica Tereza Veneziano [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR). BERTOLO, Ana Letícia [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR). NASCIMENTO, Daniela Defavari [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR). GUTMANIS, Guntá [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR). FARALDO, Maria Inez Fernandes [BR/BR]; Avenida Pádua Dias, nº 11, 13400-970 Piracicaba - SP (BR).
- (74) Agents: GAIARSA, Lucas M. et al.; Av. Brigadeiro Faria Lima nº 1485, Torre Norte - 12th Floor - Pinheiros, 01451-904 São Paulo - SP (BR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TI, TM,

[Continued on next page]

(54) Title: METHOD FOR THE GENETIC MODULATION OF THE BIOSYNTHESIS OF HEMICELLULOSES, CELLULOSE AND URONIC ACIDS IN PLANT CELLS USING GENE EXPRESSION CASSETTES



(57) Abstract: The present invention refers to gene expression cassettes encoding enzymes involved in the metabolic pathway for the biosynthesis of hemicelluloses, cellulose and/or uronic acids, and to a method for genetic transformation of plant cells through the introduction of one or more gene expression cassettes from the present invention, and the overexpression and repression of these genes in plants. More particularly, the present invention refers to a method for introducing expression cassettes in plants. Additionally, the present invention refers to genetically modified plants. The present invention also refers to the attainment of the genetically modified plant, its derived plants and seeds, as well as the wood, paper and cellulose from this plant.

WO 2005/071086 A1



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.